



The I/O Connector

The newsletter of the San Diego Atari Computer Enthusiasts

October 1987

(SDACE * P.O. BOX 203076 * SAN DIEGO * CA *



菅原千珠

*The Actor Senya
by Kiyomasu (1716)*

The San Diego Atari Computer Enthusiasts

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(Call between 5:00 pm and 9:00 pm please)

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Submissions To The Newsletter

are most welcome, and are due by the third Monday of the month, for the next month's newsletter. Mail printed copy or returnable disks with text files (ST single sided format please) to the club's P.O. Box, or upload the file to one of the S.D.A.C.E. bulletin board systems.

Bug/Sell/Trade

ads, available on a space-available basis, are free to club members. The Editor will accept ads at meetings, through the club's P.O. Box, or via telephone. Deadline for classifieds is the same as articles.

Editor's Bits

Hi ho! Peter the editor here, coming to you from the other side of a computer screen. It's been one hectic month for me, what with the start of school at SDSU, and looking for a part-time job, and what not. I've hardly had time to go to meetings. But I made it to the 8-bit meeting, finally, after what seemed like aeons of trying! It was nice seeing a good turnout from the 8-bit club, and I'm sure that's going to be the norm in the future, what with Ron Miller's excellent planning of the 8-bit SIG's calendar. But before I go into that, a word about finding a replacement for yours truly...

Due to college and other obligations, I will be unable to be newsletter editor after January 1988. Therefore, we have to start looking for someone to replace me now, so that they can get trained and comfortable with the job and everything. I'll be going into more detail as to what the Editor's duties are next month, but for now I will say this: it's frustrating, it's hard work, and you'll get little or no help from the membership, but it is the #1 most important appointed position in SDACE, and we need a dedicated, responsible person. I will be happy to stay on as assistant or contributing editor, and help out, but we do need someone else to take over soon. Requirements are simply that you have an ST with a monochrome monitor, and transportation. If you're interested, please call me as soon as possible.

Now, onto the 8-bit matters. A new idea will be introduced by Ron Miller soon that will make the 8-bit SIG responsible for filling up a predetermined portion of the newsletter with articles. While material is always on hand from other newsletters, involvement in the newsletter is zero by the membership. No one has ever complained about that fact that 80% of all articles in the *Connector* are reprints from other sources, but it's the principal that bothers me. By asking for 8-bit members to write software reviews and articles on a volunteer basis, we will be getting more people actively involved in supporting the newsletter, as well as the 8-bit SIG. If you have any comments on this or would like to help, make sure you make it to the next 8-bit meeting.

The 8-bit meeting for September was excellent. About 25 people showed up for a demo of connecting a modem to an 8-bit Atari. 8-bitters, be sure and see Ron's article, which has the meeting calendar of events for the rest of the year. It's great that people will now be able to plan which meetings are

for them and which they would prefer to skip. Ron is putting his all into rejuvenating the 8-bit club, so please do support him and go to the meetings. And remember: the Disk of the Month will be available at low cost to you, and also, in the new Mira Mesa facility, sales of new and used software and hardware is permitted, so bring your old stuff and sell it. Also, at the October 8-bit meeting, the club treasurer will be there to present a financial report on the status of SDACE.

The Elections are coming up once again. A nomination committee will be named by President Delgadillo next month to help round up candidates for the five elected officers' seats. The elections will be held in December, at a joint 8-bit/ST meeting, the first Thursday of the month--December 3rd--at the North Park Rec Center, Adult Room. This is important: **There will be no meeting on the third Monday of the month, and no 8-bit meeting at Mira Mesa in December, just one "joint" meeting on Thursday, December 3rd, at the North Park Rec Center.**

The weekend of the 19th and 20th (hopefully the newsletter will reach you in time), the Atari Fest computer show will be on in Glendale. Many, many companies will be there, showing their wares, and great buys will abound. There will be a large number of 8-bit developers this year, as well. For more information or directions, contact Dave Delgadillo at 475-6790, or call his BBS, the Emerald City (see BBS list). Carpooling may be available--give me a call, since I'm going, and I'll probably have room to spare--so you have no excuse not to go. Admission is \$5 at the door, so everyone show up and make it a great show! Remember, it's the weekend of the 19th and 20th.

The *I/O Connector* costs approximately \$150 to duplicate and mail each month. We receive anywhere from \$50 to \$75 in advertising monies each month, which means that the newsletter is dragging us down badly, draining the club's bank account. If the newsletter is ever to become self-sufficient, we need more advertising. If you want to help, let local retailers who don't advertise in the *I/O Connector* know that you'd appreciate their supporting the club. Likewise, support the stores who do advertise, and let them know verbally when you are enticed to buy something from seeing the ad. Thanks for the help.

Well, until next time, I'll be seeing you.

- Peter Payne

An Atari ST/8-bit Owner's Introduction to Telecommunications

Why did you get a computer? To play games? To do word processing? For graphics work, or perhaps composition of music electronically? CAD? Infocom adventures? Emulation of another system? Well, whatever the reason, that impressive molded plastic box of computer chips is quite a useful little sucker, with many uses that you have yet to discover.

No matter what computer you own, be it a souped up 400 with 48K (or less), or a fully decked out 1040ST with Supra 30 meg hard disk, two monitors, and a Magic Sac, you can get a lot more out of computing with a modem than without. No kidding! At the last 8-bit SIG meeting, an online demo of using the club's 8-bit BBS was shown. If you have considered getting into TC, but haven't known where to start or what the costs would be, read on.

A modem is a device which allows your computer to 'handshake' with another computer, sending bytes of information in the form of text or computer programs over any telephone line. The word stands for modulation/demodulation, which is how data is sent. The result is that, using your modem and a software program which turns your computer into an I/O terminal, you can read bulletins, send mail, send and receive computer files (games, database, source code, you name it), play games online, and so on. All you need is some money to invest in a modem, a terminal package (unless you use a public domain program or receive a term with the modem), and an interface (if necessary).

The Modem: You've no doubt heard the phrase "Hayes Compatible" somewhere or else. The Hayes Smartmodem has been, for years, the de facto standard in personal and business use Modems. If a modem is Hayes compatible, it can be easily used with almost any terminal software automatically. If you are buying a modem for an ST, don't even consider getting a non Hayes compatible modem, as it will be all but unusable with the popular terms. For the 8-bit, there are several non-Hayes compatibles out, which have excellent terminals written to work with them, so Hayes emulation is not as important for the 8-bit computers.

There is one other thing to consider when choosing a modem: Baud Rate. Baud means *Bits of Actual Useable Data*, and is a measurement of the speed of data

transfer. Speeds are typically 300, 1200, 2400, 4800, 9600, etc. 300 baud modems can be had for very little money, under \$40 on an 8-bit, about the same for an ST, but they are too slow. Expect to take about an hour to receive a file of around 200 128-byte sectors (32K) at this snails' pace. 1200 baud modems are more expensive--\$80 for an Avatex, \$130 for better quality Hayes compatibles--but the speed increase is definetly worth the money. I have 2400 baud for myself, which is eight times the speed of a 300 baud. They can be had for around \$200-\$350. Look for Mitac or Mitsuba for around \$200, which are both, of course, Hayes compatible. 2400 baud is really worth it, and I wouldn't trade it for anything.

On an ST, all you need is the modem (remember, only Hayes compatible are worth your time; expect to pay \$80 for an Avatex, or up to \$150 for higher levels of compatibility), term software (some are available in the public domain, although the best ones--Flash and Interlink ST--are commercially available for around \$40), and an RS-232 cable (don't pay more than \$10 or \$15). RS-232 is simply the name of the parallel port on the back of the ST. Once you have all this, you are ready to go online.

8-bit users cannot use a Hayes compatible (RS-232) Modem without getting an interface. Also, since there is only one 1200 baud modem made for the Atari 8-bits which requires no interface, if you want to have a 1200 or higher baud modem, you will most likely need an interface. The two most popular interface units are the 850 (made by Atari, although these are hard to find and have been long since discontinued; expect to pay \$100 at least for this Printer-Modem interface) and ICD's P:R: Connector (this unit is available everywhere and cheaper, around \$50, although the reliability and quality is not as high as the 850, which is said to be the Rolls-Royce of modem-printer interfaces). There are other interface units available, such as the M10, but the 850 and P:R: are two of the the best.

Of course, 8-bit users don't have to buy an interface. The Atari 1030 and XM301, and the MPP 1000C or 1000E modems all connect to to the Atari 8-bit without requiring an interface to give it an RS-232 interface. They are all 300 baud modems,

all inexpensive, and all come with software to use with. These modems go for around \$40. In my experience, the MPP should be avoided, as it was extremely cheap and was wont to hang up at the drop of a hat. I would go for the XM301, if I were you, although there was some talk of faulty wiring inside those modems (an easy mod fixed the problem). But remember, if you get 300 baud you will hate life, and will envy and covet your 1200 and 2400 baud neighbors. Take my advice, get a P:R: and an Avatex, for around \$160 total, and breathe easier with 1200 baud.

For the 8-bits, such terminal programs as SmarTerm and Teletari are available. Don't bother. There are two word you need to know: **Rmodem** and **Express**. These are public domain terminal programs, which are both excellent. **Rmodem**, which is generally driver-oriented, and can be made to work with the cheap 300 baud modems as well as the Hayes compatibles using the 850 or P:R:, is written in BASIC, and will take care of all your TC needs. **Express**, with specific versions available for 850 or P:R: driven modems, MPP, 1030 or XM301, is (in my opinion) a better program, with more features. You can get both of them and decide for yourself, since they're free.

Now that you have your modem, cable (if needed), software (if not included), and interface (if required), you're ready to roll. Connect everything the way the instructions say, boot the software, and you will have access to a wealth of free software and message bases locally, as well as such information giants such as GEnie and Compuserve. Just think, the ability to leave mail to anyone in the computer world, at any time! Download free software, pictures, music files, and more! All because you read this article!

If you're just starting out shopping, by all means consult the I/O Connector's advertisers, or the Byte Buyer, for the best prices. Be sure to talk to an Atari specific dealer, who knows how to help you if you can't get it working. Modems can be tricky things, especially if you pay almost nothing for them.

I hope this article may have cleared some things up for you. Believe me, having a modem doubles the usefulness of a computer. Without a modem, you're like an island, dependant on sources like Analog or Byte Magazine or this newsletter for information. With a modem, a whole new world opens for you. It's no fluke that so many people own and are happy with modems, so maybe you should get one too. Good luck making the choice.

- Peter Payne

Laws of Computer Programming

(Author Unknown)

Reprinted from the Acorn Kernal

1. Any given program, when running, is obsolete.
2. Any given program costs more and takes longer.
3. If a program is useful, it will have to be documented.
4. Any given program will expand to fill available memory.
5. The value of a program is proportional to the weight of its output.
6. Program complexity grows until it exceeds the capability of the programmer who must maintain it.
7. Make it possible for programmers to write programs in English, and discover that programmers cannot write in English.
8. Software is hard. Hardware is soft.
9. It is economically more feasible to build a computer than to program it.
10. An operating system is a feeble attempt to include what was overlooked in the design of a programming language.

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Reminder:

October 8-bit Meeting Thursday October 1st in Mira Mesa meeting center.

September ST meeting Monday Sept 21st in North Park Rec Center. October ST meeting Monday October 19th.

All meetings at 6:30 pm. **Be there!**

S.D.A.C.E. Classifieds

WANTED by SDACE:

Atari 810 or 1050 Disk Drive
Must be cheap! Call Dave D 475-6790

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Atari CX85 Numeric Keypad (8-bit),
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Rick 284-2365

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\$625/Best Guy Davis 463-9704

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LISTING OF SAN DIEGO AREA ATARI BBSs

Area code 619, 300/1200 BAUD, 24 hours a day
unless otherwise noted

Code	Name	Computer	Baud	Number
3	Fred's Place	8-bit	2400	560-8173
3	Polaris	8-bit	300	566-6210
3	The Highlands	8-bit	3/12	298-8475
	The Atari Fortress	8-bit	3/12	426-4253
3	8-bit SDACE	8-bit	3/12	566-3430
1	Penthouse Suite	8-bit	3/12	279-2722
1	Sherwood Forest	8-bit/ST	3/12	276-5603
1	! Aardvark	8-bit/ST	2400	272-5553
4	ST-SDACE	ST	3/12	284-3821
4	ST MIDI Connection	ST	2400	452-7535
5	Emerald City BBS	ST	1200	475-9498
5	! Computer Blvd.	ST	2400	589-0565
5	Computer Plus BBS	ST	3/12	691-7862
4	* Computer Outlet	ST	2400	282-6815

1 = TCxe, 2 = Forem, 3 = BBS Express
4 = Michtron ST, 5 = Forem ST

(* = Limited hours, != Magic Sac support)

**For additions or corrections,
contact the editor at
(619) 560-4272...**

8-Bit ARC Questions

By Ralph Walden

Reprinted from the ACE Newsletter

The following is a list of the most commonly asked questions about the 8-bit version of ARC and ARCX, utilities which can compact and decompress groups of files into one smaller file. ARC is a universal compaction format, widely used on the PC, the ST, the Amiga, and recently, the Macintosh. ARC and ARCX are public domain programs for the Atari 8-bit, probably available in the 8-bit PD library. Using these utilities, you can de-ARC text and other files from many other computer systems, adding compression compatibility between the Atari 8-bit and other computer brands.

Q: When I run ARCX (the un-compaction utility), the disk drives run, the screen goes off, and then nothing happens. I have to hit System Reset to get out of it.

A: ARCX does as much work in memory as possible. This means a long time can go by before it actually starts writing to your disks. Let ARCX run--if two minutes go by without any activity, then you have problems.

Q: When I unARC an Archived file, it has a duplicate 128 byte block at the end.

A: ARC and ARCX have no concept of "blocks". If you get a garbage block, then the person who ARCD the file had a bad file to begin with. This commonly occurs when a terminal program and BBS don't agree on how to end the ARC file transfer.

Q: Since almost all files are "squeezed", wouldn't it be easier to forget about the "stored" and "packed" method in order to speed up the ARCing process?

A: The "stored" length is the actual file length, so very little calculation is done to get this value. All input is "packed" before being "squeezed". The result is, all three types of compression are known as soon as ARC calculates the "squeezed" length with no additional overhead. I have tried "squeezing" an unpacked file and it ends up larger.

Q: Couldn't you make a special 130XE version so you can add the "crunched" routine to the other three?

A: I could, but it doesn't make sense. It will eliminate the possibility of a 64K Ramdisk, tying the entire I/O to floppy disks. Between this and the constant swapping of bank

memory will make a very slow ARC. On the ST I implemented a more efficient version of "crunched" than the standard ARC found on ST's, IBM's, etc. The result is a full implementation of "crunched" with no need for the "squeezed" routine. The problem with "crunched" is the need for a 30K buffer area. It could be reduced by 5K by a 3 byte data type, but neither C nor any other 8-bit language supports a 3 byte data type. This means, I need to do it in assembly. There are other problems, though less severe, such as the need to do long integer division, having to use note and point to full in the header information, etc. Needless to say, it is not a project I relish doing. I am implementing the "crunched" routine in assembly on the ST, and when completed I will at least consider porting it over to the 8-bit.

Q: Could you implement a version to allow the user to swap disks?

A: I could, but it's not practical. You'll have to swap disks 15-20 times to extrace a full single density disk. You will not find many ARC files which cannot be extraced on a single density disk, and this is reduced further if the "crunched" routine is used. For example, the ACE BBS, which has about 4 megs of 8-bit ARC files, only has one file

which cannot be extraced with a single density drive.

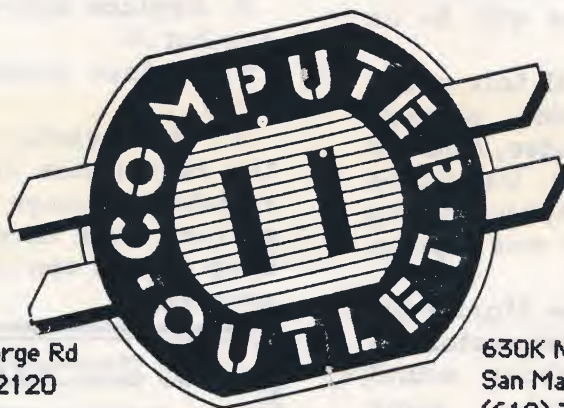
Q: Would ARC and ARCX be faster if they were written in Action?

A: Probably not. ARC uses recursive function calls (the function calls itself) which is difficult to do in Action. Most of the time critical functions are written in assembly, which is faster than Action. Even writing the entire code in assembly would have little speed improvement over version 1.2. The main limitation now is the speed of the disk drives and the speed of the microprocessor. Currently, ARCX is about 9 times slower than ARCX on the ST. That's pretty good when you consider the disk drives are 10 times slower and the microprocessor is 6 times as slow.

In the works, I will at some point in time be writing a program to allow you to lost the filenames and their sized within an ARC file. This will be quite efficient when used under SpartaDOS, which has a better note and point routine than Atari DOS. If used under Atari DOS (or compatible), it will require reading in the entire file. I will be doing an ARCX with query, and possibly add password protection. I also may write an assembly version, and implement the "crunched" feature as well.

CAUTION

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8-Bit Vice President

Ron Miller

Our August meeting was very active. Since we can buy and sell hardware at the 8-bit meetings, there were some very nice deals made. I saw one Atari 1027 printer go out the door for \$20, and yes the printer worked. Blank disks were 15 for \$1 and there were other good hardware deals. If you have stuff to sell, this is the place to do it. However, don't bring any pirated software because we will not let you sell it.

Our meeting theme was Computer Controlled Applications. Ron Miller demonstrated hooking a variety of sensors to an Atari 400. He had pressure sensors, infra-red detectors and beams, magnetic switches, analog devices and his famous exercise machine. He had an entire rowing machine hooked to an Atari 400 and a program to measure exercise. Ron handed out written documentations on using old joystick wires to hook up to many of the sensors.

By the time you get this newsletter, the September meeting will be over. Our theme was connecting to a BBS to download programs. We will have talked about modems, software and local BBSs you can use. We will have had a live demo using our own club BBS.

As it looks now, we will have our 8-bit meetings every month without a break. Yes, we will have a december meeting. (Editor's note: The December meeting will be at the North Park Rec Center on the first Thursday of the month, in a joint meeting with the ST SIG. Elections will be held, and then the meetings will be divided into 8-bit and ST). Our meeting themes will be as follows:

October 1st - Graphics. We will talk about computer graphics capabilities, player-missile graphics, graphics modes, and we will have some demo programs. We will be explaining what the Atari graphics really do. We will demo a pen plotter and explain how it works.

November 5th - Sound. The Atari 8-bit still has one of the best sound generators in existence. We will talk about sound generation and demonstrate some interesting sounds including some good music.

December 3rd - (At North Park dual meeting) Languages. We will discuss various languages and their use. If you have wondered about FORTH, LISP, assembler, etc., this is your meeting.

In 1988, I would like to see some unusual themes like math, home economics, database management, home security, personal investing, wood working, art, electronics, chemistry, and so on. Our theme for 1988 will be "Using our computers to do real work."

I am looking forward to our meetings and working with other people who have interests like mine. Hope to see you there.

XE Console Key Fix

Reprinted from Current Notes,
March 1987

The following fix for failure of the START, SELECT, OPTION, HELP and RESET keys comes from an Atari *Technical Advice Notice* dated July 25, 1986.

According to Atari, the problem is caused by excessive voltage drop in the keyboard and the keyboard connector (J8). This is caused by oxidation or contamination of the metalization film on the flex circuit.

The Atari recommended fix may be accomplished by proceeding as follows:

1. Remove the flex circuit from the edge connector (J8).

2. Carefully remove any oxidation or contamination from the metal film (side with circuits in black). *Do not use excessive force, as this will destroy the traces.*

3. Shim the non-conductive side of the flex circuit (silvery colored side) with any material. It should be .002 - .010 inches thick (Scotch "Magic" transparent tape will work).

4. Remove R95; a 220 Ohm resistor to pin of J8.

5. Replace R95 with a 1K Ohm resistor to pin 2 of J8.

6. Replace shield and reinsert flex circuit to J8.

7. Reassemble and shim will minimize the recurrence of the poor contacts. The resistor change lowers the LED drive current and thereby reduces the voltage drop across contacts thus eliminating the problems.

**A Newsletter without
your article is like
an Atari
without a disk drive.**

Why don't you just write an article?

ST Software Review: Sub Battle Simulator

By Chris Freemesser

Reprinted from The A.C.O.R.N. Kernal

Have you ever wondered what it would vbe like to be the captain of a submarine during World War II? If you answered yes, then Epyx has made it possible with **Sub Battle Simulator**. It accurately recreates submarine battle in almost every respect. When you first load up the game, the credits mention the upcoming **Tank Battle Simulator**. If **Sub Battle** is any preview to it, then it should be spectacular.

You have the option of either target practice, a single mission, or a wartime command. if you choose the last two, then you get to decide what side you wish to be on (American or German) and what level of play you wish. The higher the level, the more realistic it gets with respect to enemy strenmgh, times for various events, and the amount of damage your torpedoes to. Depending upon what year the war is in, your submarine type changes as it actually did. This affects the amount of torpedoes you can carry and the number of tubes you have, the depth you can dive, and the speed you can travel. Also, the game allows you to either play actual mission time (why anybody would want to play one mission for three weeks is beyond me), or you can speed up time up to 4 game hours for every second of real time. This comes in handy when travelling to/from your assigned stations. In the easier levels of play, there is the navigator option which gets you to your station in a matter of seconds. As to sinking enemy ships, this is teh best part of the game. Most of the enemy ships you sink are convoy ships, which include merchantmen, tankers, transports, escort ships, patrol board, destroyers, battleships, and aircraft carriers. Also, you are harassed by enemy planes when you are near the coast. When attacking, you are sometimes plagued by dud torpedoes, the percentage of which depends on the type you are carrying. The type of torpedo also changes as it did during the war. You are also equipped with anti-aircraft guns, deck guns, radar, sonar, maps that can change size from 7 miles to 2000 miles, side views, a target book to identify enemy ships, and a radio to send your position and distress signals.

ASs if that wasn't enough, you can be damaged to the point of having to abandon

ship, which is another option of the game. You can either be rescued (if you radioed before abandoning) or lost at sea. If you beach your sub, you automatically die.

As for playing the game, you have the option of using both mouse and keyboard at the same time, which is very helpful in some circumstances.

The only gripe I have against game control is that the pointer constantly blinks, and it sometimes takes numerous clicks to get something to work. In some circumstances, you may be pointing to go in one direction (on the compass), and it will send you in the other direction. This is probably just a small glitch in the program.

At the end of each mission, you are rated in your efficiency. If you did a poor job, you can be relieved of your command!

Overall, I highly recommend **Sub Battle Simulator** by Epyx. The gameplaty is very good, and it is very realistic

Sub Battle Simulator runs on any ST with color monitor and single or double sided drive. Retail price is \$29.95.

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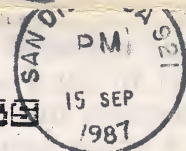
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October 8-bit meeting will be **Thursday, October 1st**, (the first Thursday of the month, as always), at the new meeting place in Mira Mesa, at the Woods Clubhouse on Baywood, near Mira Mesa Blvd (see map in the June *I/O Connector* or call editor for directions). ST workshop/Magic Sac SIG will be same time and date as the 8-bit meeting, at North Park Rec Center, 2719 Howard Ave, in the Adult Room. September ST SIG meeting will be on **Monday, September 21st**, October ST meeting will be **Monday, October 19th** at 6:30, also in the North Park Rec Center, in the Social Room. **Mark your calendar and show up!!!**